



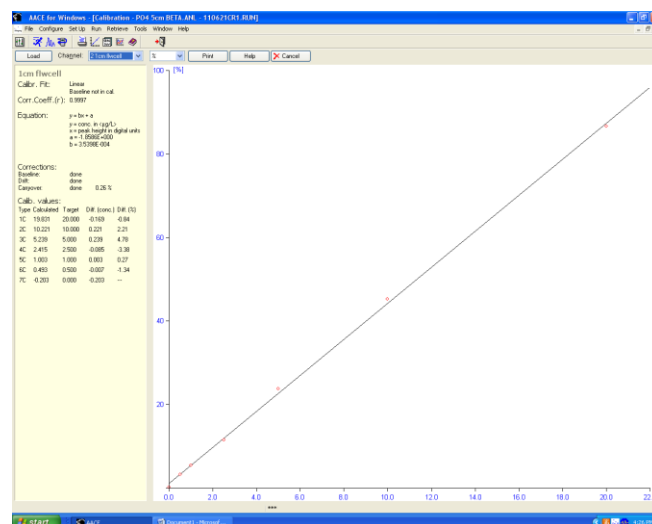
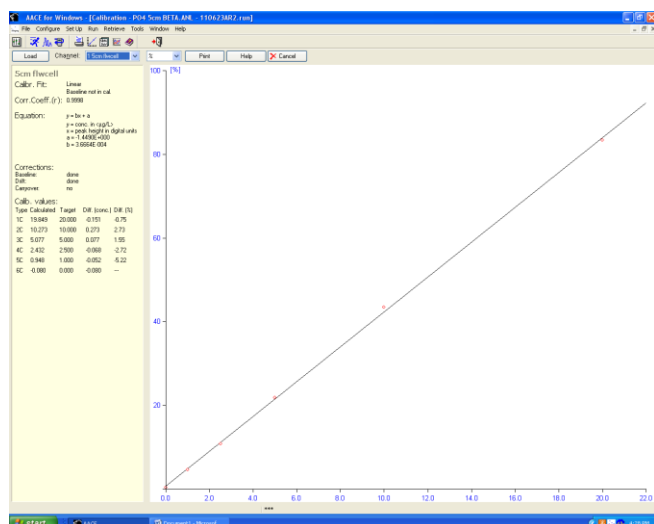
AutoAnalyzer 3 (AA3) HR Ortho-Phosphate in Seawater Study at 1 ppb (0.03 μmol as P)

The need for low level phosphate analysis is becoming increasingly important due to recent government regulatory changes. Low level ortho-phosphate in seawater was analyzed on the SEAL AA3 HR to show the reproducibility and the low detection levels of the results obtainable from this instrument. Two types of flowcell were tested. Below is a comparison of the 50 mm flow cell and 10 mm flowcell, using our LED light source.

Data and Statistics:

	50 mm flowcell (ppb as P)	10 mm flowcell (ppb as P)
	0.959	1.044
	1.015	1.106
	1.018	1.105
	1.040	1.112
	1.031	1.084
	1.013	1.111
	1.056	1.210
	1.113	1.095
	1.063	1.113
	1.019	1.053
Average	1.033	1.103
Std Dev	0.040	0.045
%RSD	3.887	4.066
MDL	0.111 ppb (0.004 μmol)	0.124 (0.004 μmol)

Calibration Curves:



Screenshots of 1 ppb (0.03 μmol) replicates from AACE software:

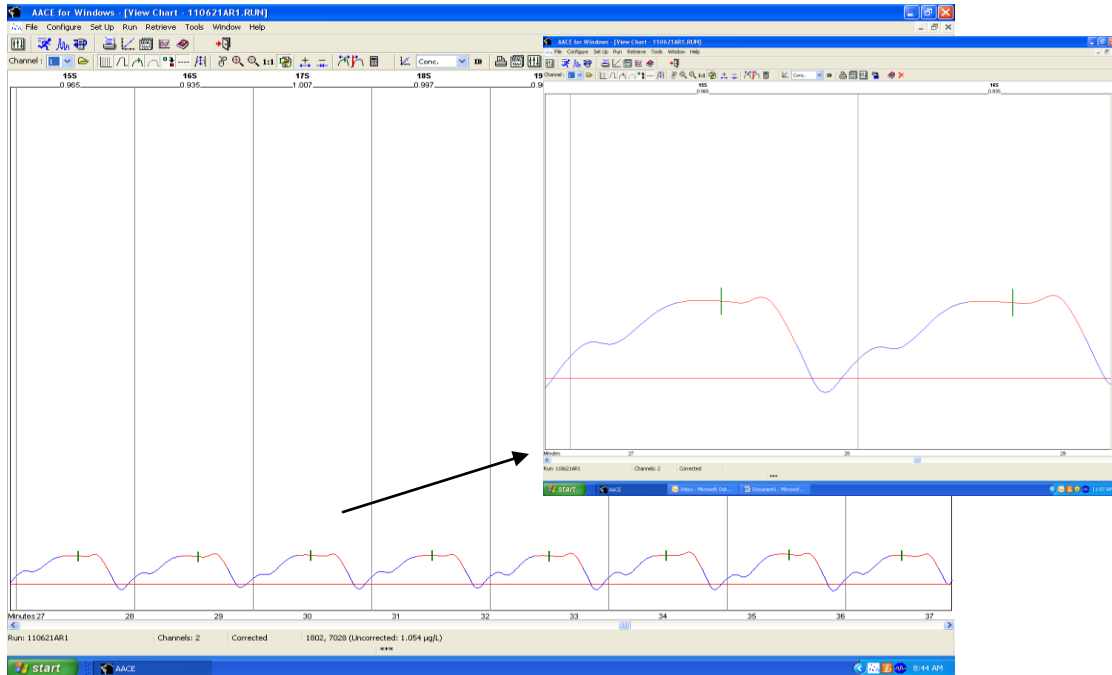


Figure 3: Replicates at 1 ppb (0.03 μmol) PO_4 as P, 50 mm flowcell. Gain = 182

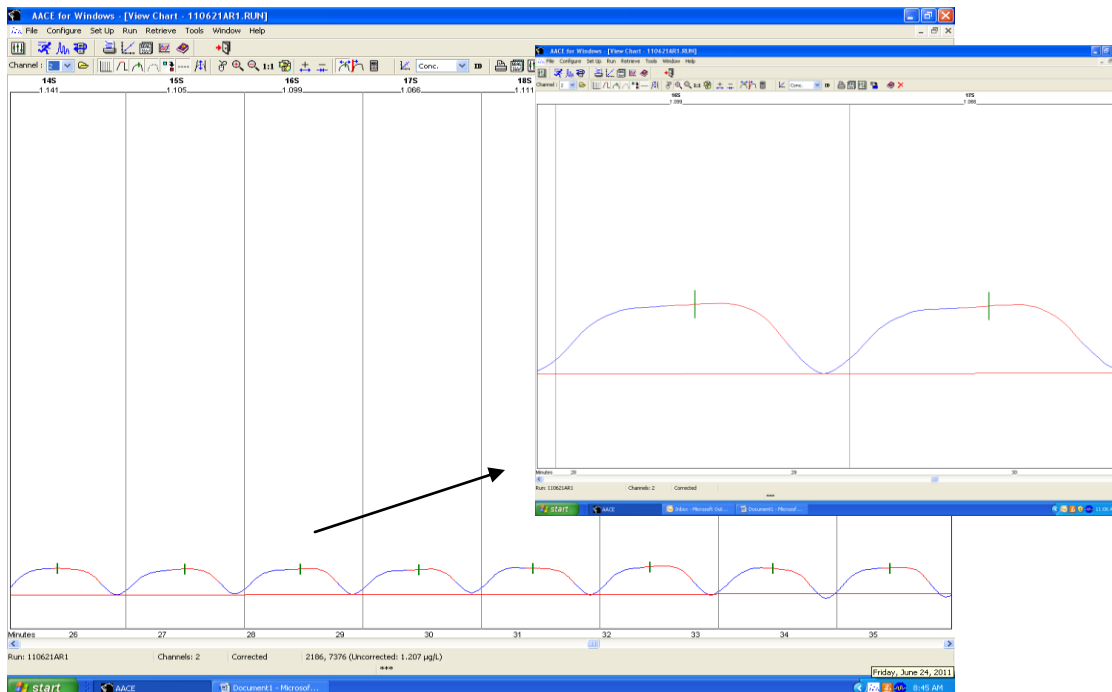


Figure 4: Replicates at 1 ppb (0.03 μmol) PO_4 as P, 10 mm flowcell. Gain = 955